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ABSTRACT

This study sought the answer to the question, "What do retired scientists do?" A questionnaire was mailed to scientists who had a Ph.D. or equivalent and who had retired from the staffs of 76 universities from 1960 to 1963. It was designed to inquire into the following: (1) reactions and adjustment to retirement; (2) criteria for a job for a retired scientist; (3) conditions for retirement; (4) occupations after retirement; (5) self estimations of health and intellectual functioning; (6) career background; (7) present living situation; and (8) suggestions and advice for others contemplating retirement. The returns were analyzed by computer and the findings, on all eight aspects, were discussed and summarized. (TL)

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**A Pilot Study of Scientists**

**Retired 1960 Through 1963 (1)**

**by**

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The author, herself retired, wished to learn what other retired scientists did. Her search of the large literature on retired people revealed almost nothing for this particular population (2, 3). Certainly, retired scientists constitute a highly trained, unusually gifted group. It seemed investigation of how they cope with the problems of retirement, whether they are available for present employment, etc., could prove of social value. A pilot study for which material would be gathered by mail questionnaire was planned. For it, two things were required: first, a mailing list and second, a well designed questionnaire.

#### WHO WAS INCLUDED - THE MAILING LIST

To limit sample size, this first pilot study included only those scientists who had the Ph.D. or equivalent and who had retired from the staffs of certain universities during 1960 through 1963. Since efforts to procure such lists from professional organizations, publishers, etc., proved fruitless it became necessary to compile our own.

The U.S. Office of Education list of the 50 largest university libraries in the U.S. is published in the 1968 World Almanac. A letter was addressed by name to the supervising officer of each of these universities to explain the planned study and request lists

of emeriti in social, biological and natural sciences retired in 1960 through 1963. We asked that the lists include name, present address, specialty and year of retirement. A single letter to follow the first one was sent to those who had not replied within a month. Cooperation was almost 100% but it became apparent that an insufficient number of some 300 names would be received. Therefore, the same letter which had already proved so successful was sent to presiding officers of 26 additional universities, reported to have teaching staffs of 900 or more in 1968. Of all our requests, only two went unanswered, though some replies explained why lists could not be supplied. A mailing list of 601 names was compiled.

#### THE QUESTIONNAIRE

While mailing lists were being requested and compiled, a preliminary form of questionnaire was designed and revised after test interviews (cf. copy of questionnaire). The final questionnaire was designed to inquire into the following:

1. Reactions to retirement and adjustment to it.
2. Criteria for a suitable job for a retired scientist.
3. Conditions for retirement (age, compulsion). Criteria and conditions under which impending academic retirement could or should be partially or entirely deferred.

4. Occupations after retirement, same or different, paid or unpaid, purely recreational or a combination of these.
5. Self estimations of health and intellectual functioning.
6. Career background and achievement.
7. Present living situation, level of income, availability for employment.
8. Suggestions and advice for others contemplating retirement.

To provide opportunity for free comment, a blank page headed "Comment Sheet" was included with each questionnaire. During preliminary interviews, anonymity for respondents was repeatedly stated to be an absolute requirement. To assure anonymity, an eight-place numerical code was devised for use in analysis of the data. Each questionnaire and comment sheet were marked with the appropriate code number, covered with a personally addressed, hand-signed letter, with a stamped, return addressed envelope enclosed.

Returns from 601 questionnaires are shown in Table I. Since funds and time were running out and the response was over 42% on the first mailing, no follow-up was attempted. Analysis was done by computer. Many replies included valuable and/or interesting comments which are being handled separately. No report on them will be attempted here.

( TABLE I HERE )

THE FINDINGS

1. Reactions to retirement: Since clinical psychological experience has indicated that most people find it difficult to express emotionally charged opinions or those they, themselves, consider socially unacceptable, the first few questions were made less threatening by being stated in general rather than personal form. For example, "most professional people I know" was used rather than "I, myself." Perhaps a tenth of the respondents objected that they were not qualified to give such general information, indicating that this population was factually rather than prejudicially oriented. The majority, however, replied to all such questions.

Of 162 who expressed an opinion, 99 felt that most professional people are glad to retire, but 95 of 162 replies said that they accept retirement only because they must. An even larger number, 115 of 169 agreed that a retired scientist can usually find a suitable job or occupation. In all cases, more than half of those who did not agree, had no opinion. Less than 20% actually disagreed. To summarize: Though professional people are thought to retire only because they must, they are actually glad to do so.

If they wish to find occupation, it is not difficult to find something suitable.

2. Criteria for a suitable job for a retired scientist: First and most important, respondents indicated the job should be in a capacity appropriate to the previous experience and training. It should be at an interesting activity, too. Satisfactory geographical location comes next with adequate remuneration running very close behind. Part time work at convenient hours is considered more desirable than full time work. Short rather than long term commitments are preferred.

3. Conditions for retirement: Although 104 agreed that there should be no forced retirement at a certain age vs. 46 who felt forced retirement necessary, most replies (139 yes to 17 no) indicated that at some predetermined age, faculty members should accept some sort of emeritus status. The ages suggested covered a range from 60 to 75 but the vast majority (130 to 17) indicated that emeritus status should come at age 65 to 70. Criteria for active emeritus status were ranked as fair physical health, and intellectual alertness, first of all. Many respondents, however, vociferously objected to having mental alertness evaluated by such professionals as psychologists or psychiatrists. Still, 129 respondents were willing to

let the psychologists or psychiatrists evaluate them intellectually, with 158 opting for physical examinations to test for fair general health. Good teaching ability, familiarity with new developments in the field and willingness to work at a level carrying less authority and/or prestige were ranked very closely together for third place. Popularity with students came next, with recent publications trailing quite badly behind the other criteria for judging fitness for active emeritus status. Suggested activities for an emeritus included part time teaching, supervision of research, advising students including graduate students. The requirement to give up office and/or laboratory facilities on campus at retirement was deeply resented by several, who felt they might have made valuable contributions if such facilities had been available to them.

4 A. Professional occupations after retirement: Although the majority thought retired scientists pursued interests they had had to postpone during their active years, most respondents stated that they, themselves, were chiefly occupied in areas related or similar to their career fields. Almost all agreed that work should be paid since this showed that competence and experience were valued and the work, itself, had status. A considerable

number added that the money was welcome or even necessary. Though almost 90% who answered this particular question said their responsibilities had been changed, 40% indicated that responsibility had not been reduced. Two-thirds reported that they were doing the same thing as before but for fewer hours and with less pressure. Apparently, there is a careful discrimination between responsibility which does not decrease and work load which does. Of the 181 respondents, 109 reported that they were employed. Many of these now function as consultants, e.g. in plant pathology, viniculture, various phases of engineering. Some accept staff appointments and have a second career at smaller institutions. Some continue the practice of medicine or dentistry. Several do their own research or direct that of others. One has been a full time Vista volunteer. Two are now heads of worldwide, large and important charitable organizations. Several report that they are doing better now both in personal satisfaction and financially than while supposed to be fully active and feel they should have retired sooner. About three to one reported no change of interest as they advanced in years. (cf. full breakdown of present occupations of these 109 retired scientists.)

4 B. Recreational activities and rewards of retirement: By far, the greatest boon in retirement was reported to be the opportunity to work without pressure. Next came the enjoyment of hobbies followed by companionship with those of similar or different occupational background. Time to rest was appreciated as was opportunity to investigate professional areas outside the original field of concentration. Hobbies include such usual activities as gardening, boating, games (bowling, golf, bridge, shuffleboard, etc.), hunting, fishing, nature study, the arts (theater, painting, sculpture, etc.). One respondent raises quail. Another piloted his own plane until the age of 75. One hybridizes roses, another iris. The replies indicate that hobbies are pursued with a high level of activity, often with concrete products some of which produce income. (cf. breakdown of hobbies mentioned by 130 respondents.)

5. Self estimations of health and intellectual functioning:

Though 53 respondents reported that they had chronic illnesses of median duration over 10 years, all said they managed to function adequately and enjoy life anyway. 89 reported handicaps of vision, hearing, muscular coordination, some lifelong, some as recent as the past year. Of these, only 6 reported that they were unable to compensate or adjust to the handicap, though all were managing to

function. Of 178 who evaluated their own health, 150 reported themselves in excellent or good condition; 24 said health was fair; 2 stated in poor health and 2 considered themselves handicapped due to stroke or similar severe impairment.

Intellectually, most respondents stated that they could remember and think as well as they ever did, some adding the comment "except for rote memory," or stated that they could still do a satisfactory job even though their intellectual powers had deteriorated somewhat. There was general agreement that the backlog of knowledge and experience enabled more efficient utilization of creative capacities than at an earlier age.

6. Career, background and achievement: Since our sample of scientists had retired 1960 through 1963, and the questionnaires were answered in early 1969, all respondents had been retired from 5+ to 9 years. Ages at time of answering questionnaires were reported to be 65 to 83 years, with a mean of 73.9 and a median of 74 years. Some stated that this was actually a second retirement since they had accepted a full time appointment at another university or college after retiring the first time. Others stated that though they were retired from one university, they were now on staff at another. This very small group (N about 5) are provocative and

may deserve further study. Although all respondents were considered to have achieved the equivalent of the Ph.D., the highest degree given by 15 was B.A., by 20 M.A. Of 143 Ph.D.'s, 27 had additional honorary degrees. Positions at retirement were as follows: Vice President 1 -- Dean 7 -- Head of Department 40 -- Full Professor 111 -- Associate Professor 10 -- Assistant Professor 6 -- Instructor 1.

Years of service with the institution from which they retired ranged from 5 to 52. The distribution was roughly bi-modal with one cluster having a median of 17 years of service, and the other cluster median at 37 years of service. Specialties covered pure and applied fields in some 39 general areas. (cf. full breakdown of areas of specialization.)

7. Present living situation, level of income, availability for employment now. Of 176 replies, 157 reported that manner of living was comparable to that before retirement, but only 146 considered their retirement income adequate. It would seem that at least 11 respondents had not considered the income sufficient even before retirement. Only 41 reported that they were employed because they needed the income. The majority felt comfortably situated because they had managed their finances in such a manner as

to have "unearned increment" to supplement pensions.

The chief reasons for seeking employment were a desire for continued accomplishment and a need for contact with others who had similar interests. Too much leisure caused about a third of those employed to seek occupation. A few had such good offers that they felt they could not refuse them.

Very few scientists in our sample left the university community in which they had their active careers, though a few moved to smaller quarters. The median time in the present dwelling was 20 years with a range from one to 58 years. 144 reported they live in houses vs. 26 in apartments and 111 in other types of housing such as retirement homes. All but a very few own their homes and like living where they are. Many recommended the amenities of their present location with enthusiasm. A desire for a more equable climate was mentioned by many but only if they could retain their present advantages. Since this is not possible, they prefer to stay put.

8. Suggestions and advice for others contemplating retirement.

Of 100 answers to this question, 36 said that they had no suggestions or felt that this was a situation each individual must handle

in personally suitable ways which only he or she could discover. The remaining 64 respondents had valuable suggestions. A recurrent theme was "Prepare ahead of time." Another was "Keep busy." This meant, "Appraise activities 10 to 20 years in advance." To quote one respondent who succinctly summed up what many others said, "1. Save money. Retirement income is pitiful. 2. Pick a home before you retire and have it ready. 3. Don't retire - just keep right on working." Another said, "Live where your friends are in a community where you have lived many years, if possible." A last quotation typifies the attitude of this group. "The world is changing. Make up your mind to enjoy it." (cf. breakdown of suggestions and advice to retired people.)

#### SUMMARY

Scientists retired from staffs of certain universities during 1960 through 1963 were surveyed by mail questionnaire. Computer analysis of returns indicated agreement that many could continue to serve in a reduced capacity after retirement at age 65 to 70 years. Criteria suggested for selecting those qualified for such service are given. Somewhat over one-third of the respondents may be available for suitable employment. Our sample of highly trained individuals with Ph.D. or equivalent, reported themselves to be

active, interested and retaining their zest for living. They compensate for any physical deterioration due to aging so successfully that only two who are confined to wheel chairs (of 181 respondents) reported themselves to be handicapped. Even those two manage to have active interests and an optimistic outlook. Retirement income was generally considered inadequate unless supplemented by return on investments or present earnings. Most respondents reported having managed to provide themselves with such additional income. Comparatively few changed their geographical location, preferring to remain near the institution from which they had retired but some moved to smaller or more easily maintained dwellings. Since anonymity was a sine qua non for practically all respondents, all records and analyses have been coded. A list of those available for employment, identified by code number only, was sent to organizations which might be interested in retaining such personnel.

Table I  
 Mailing of Questionnaires  
 (Mailed March 14 to 21, 1969)  
 (Replies Received March 19 to May 24)

Total Mailed	601	Replies Received	245
Undeliverable by Postoffice	17	Useable Replies	181
<u>Replies not used in analysis</u>			
Returned by other than addressee who was reported deceased or too ill to reply			15
Recipients did not consider themselves scientists			15
*Retired in years not covered by study			8
Did not fill in questionnaire because of objections to form or to such sponsored research			6
Replies too incomplete for analysis			18
Received after data was analyzed			<u>2</u>
TOTAL UNUSEABLE REPLIES			64

\*Original lists did not give year of retirement.

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